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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,505	03/28/2002	Takuji Okamoto	220583USOX PCT	2412

22850 7590 07/24/2003

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EXAMINER

LU, C CAIXIA

ART UNIT

PAPER NUMBER

1713

DATE MAILED: 07/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n N .

10/088,505

Applicant(s)

OKAMOTO ET AL.

Examiner

Caixia Lu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 8-15 and 28-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 8 and 12

Page 80, line 6 from the bottom and page 83, the last line respectively: non-English word is used in the disclosure.

Claims 28-30

Page 88, lines 2-3, Page 89, lines 2-3 and page 90, lines 2-3 respectively, the phrase "the same as defined in the above general formula (I)" renders the instant claims indefinite since the instant claims are not related to "formula (I)".

Applicants are also urged to check the Specification thoroughly to eliminate all of the non-English disclosure.

***Claim Rejections - 35 USC § 102/103***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-15 and 25-27 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kashiwamura et al. (EP 0 818 458).

(i) Claims 1, 2 and 25

In Example 3 of page 21, Kashiwamura teaches a process for preparation of copolymer of propylene and 1-octene in the presence of (1,2'-ethylene)(2,1'-ethylene)bis(indenyl)-zirconium dichloride and a borate cocatalyst, the copolymer satisfies the limitation (2) of the instant Claim 1, however, the properties of H25 and W25 of the copolymer are not disclosed.

It is noted that the catalysts of Example 3 and Example 2 are identical and the homopolypropylene prepared in Example 2 has high isotacticity with [mmmm] of 85.5%. Thus, a skilled artisan would have expected the propylene section in propylene/1-octene copolymer Example 3 would also have high isotacticity which translates to low H25, thus, the H25 of Example 3 is expected to be in the H25 range of Claim 1, especially, considering how high is H25 of 80%.

The 1-octene content in the propylene copolymer of Example 3 is 2.7 mol%, a skilled artisan would have expected that the incorporation of the 1-octene would have soften the propylene copolymer and decreased the stereoregularity which is reflected in

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the lowered melting temperature (110.3°C) of the copolymer. Thus, the W25 of the copolymer are expected to be at least at the lower end of the W25 range of 20-100%.

(ii) Claims 3-15 and 26-27

Kashwamura's Example 6 teaches the homopolymerization of propylene in the presence of (1,2'-ethylene)(2,1'-ethylene)bis(3-methylindenyl)zirconium dichloride to provide a polymer with [mmmm] of 58.6%,  $[T_m]$  of 97°C,  $[\eta]$  of .75 dl/g, and Mw/Mn of 1.86. All of the disclosed polymer properties encompass those of the instant claims.

Kashiwamura does not disclose other properties of the polypropylene such as  $[rrrr/(1-mmmm)]$  and  $(mm)x(rr)/(mr)^2$  ratios, W25 and fractions of (rmm). However, those properties are controlled by the polymer structure. Because Kashwamura's polypropylene is prepared by a metallocene catalyst which is identical or substantially identical to those of applicants, one would have expected the structure Kashwamura's polymer to be the same or substantially the same as that of the instant claims, thus, inherently having properties such as  $[rrrr/(1-mmmm)]$  and  $(mm)x(rr)/(mr)^2$  ratios, W25 and fractions of (rmm) encompassing those of the instant claims. The fact that the disclosed properties of Kashiwamura's polymer are in the ranges of those of the instant claims further supports Kashiwamura's polymer to be identical or substantially identical to that of the instant claims.

6. Claims 16-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashiwamura et al. (EP 0 818 458) in view of Tanizaki et al. (US 5,998,039).

Kashiwamura's teaching of preparation of propylene polymer is relied upon as shown above. While Kashiwamura does not expressly teach preparation of a resin

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comprising the propylene polymer and a nucleating agent and a molded product from the propylene polymer. Preparation of a molding product from a propylene polymer are conventional in the art and a nucleating agent are often added to the propylene polymer during the melting molding process to increase the crystallization rate in high-speed molding process. Such is taught in Tanizaki col. 29, lines 7-10.

Thus, it would have been obvious to a skilled artisan at the time the invention was made to employ Tanizaki's teaching to Kashiwamura's propylene polymer to prepared a molding product by introducing a nucleating agent to the polymer since such is conventional done in the art to optimize the productivities and enhance crystallinity of the molding product and in the absence of showing criticality and unexpected result.

#### ***Claim Rejections - 35 USC § 102***

7. Claims 28-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Kashiwamura et al. (EP 0 818 458).


The catalysts used in the working examples as shown above read on the instant claims (Examples 3 and 6).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (703) 306-3434. The examiner can normally be reached on 9:00 a.m. to 3:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1193.

  
Caixia Lu, Ph. D.  
Primary Examiner  
Art Unit 1713

CL  
July 22, 2003